

Amendments to the Claims

A complete list of pending claims follows:

Claims 1-71 (Previously Canceled)

72. (Currently Amended) A method for scheduling production of at least one item on at least one manufacturing line ~~(312)~~ based upon customer orders and availability of materials used for the manufacture of the at least one item, said method comprising the steps of:

- (a) receiving at least one customer order for at least one item, the step of receiving the at least one customer order being performed by a work-in-progress (WIP) tracking and control module ~~(320)~~ executing on a computer system;
- (b) storing the at least one customer order for the at least one item as WIP data in a WIP data memory ~~(322)~~ of the computer system;
- (c) developing a list of materials and working schedules required to manufacture the at least one item, the steps of developing a list of materials and working schedules being performed by a scheduling module ~~(330)~~ from information comprising:
 - (1) the WIP data stored in the WIP data memory ~~(322)~~,
 - (2) available external inventory from an external communications module ~~(340)~~ coupled to an external visibility interface module ~~(350)~~ coupled to an external inventory memory ~~(352)~~,
 - (3) available in-house inventory from an inventory manager module ~~(360)~~ coupled to an in-house inventory memory ~~(362)~~,
 - (4) in-transit inventory from an in-transit inventory memory ~~(372)~~ coupled to a delivery scheduling module ~~(370)~~ and

- (5) scheduling data from a scheduling data memory-(332), all memories and modules executing on the computer system;
- (d) generating a work schedule for manufacturing the at least one item on the at least one manufacturing line-(312), the step of generating the work schedule being performed by the work-in-progress (WIP) tracking and control module (320) executing on the computer system;
- (e) receiving truck arrival information from the at least one manufacturing line (312) and generating a truck arrival schedule to the delivery scheduling module-(370), the steps of receiving the truck arrival information and generating the truck arrival schedule being performed by a truck scheduling module (375)-executing on the computer system;
- (f) generating in-house and external material requests, the steps of generating the in-house and external material requests being performed by the delivery scheduling module (370)-executing on the computer system;
- (g) repeating steps (a)-(f) until the at least one item has been manufactured;
- developing a plurality of material requirements from the list of materials generated by the scheduling module-(330), wherein each material requirement of the plurality of material requirements comprises an identified material and a material need-by time;
- identifying a next truck scheduled for delivery to the at least one manufacturing line-(312), the next truck originating at a material source, the step of identifying the next truck being performed by a module executing on the computer system;

determining whether a following truck scheduled for delivery to the at least one manufacturing line ~~(312)~~ after the next truck has a material delivery time before the material need-by time of the material requirement, the step of determining being performed by a module executing on a computer system, and when the following truck has a material delivery time before the material need-by time,

delaying processing of the material requirement, and

when the following truck has a material delivery time after the material need-by time,

determining whether a later opportunity to request the identified material exists, and when a later opportunity exists,

delaying requesting the identified material and scheduling a delivery of the identified material, and

when a later opportunity does not exist, requesting the identified material by adding the identified material to a material request for the next truck and scheduling a delivery of the identified material from the material source to the at least one manufacturing line ~~(312)~~ on the next truck.

73. (Currently Amended) A method for scheduling production of at least one item on at least one manufacturing line ~~(312)~~ based upon customer orders and availability of materials used for the manufacture of the at least one item, said method comprising the steps of:

- (a) receiving at least one customer order for at least one item, the step of receiving the at least one customer order being performed by a work-in-progress (WIP) tracking and control module ~~(320)~~ executing on a computer system;

- (b) storing the at least one customer order for the at least one item as WIP data in a WIP data memory (322)-of the computer system;
- (c) developing a list of materials and working schedules required to manufacture the at least one item, the steps of developing a list of materials and working schedules being performed by a scheduling module (330)-from information comprising:
 - (1) the WIP data stored in the WIP data memory (322),
 - (2) available external inventory from an external communications module (340) coupled to an external visibility interface module (350) coupled to an external inventory memory-(352),
 - (3) available in-house inventory from an inventory manager module (360) coupled to an in-house inventory memory-(362),
 - (4) in-transit inventory from an in-transit inventory memory (372)-coupled to a delivery scheduling module (370)-and
 - (5) scheduling data from a scheduling data memory-(332), all memories and modules executing on the computer system;
- (d) generating a work schedule for manufacturing the at least one item on the at least one manufacturing line-(312), the step of generating the work schedule being performed by the work-in-progress (WIP) tracking and control module (320) executing on the computer system;
- (e) receiving truck arrival information from the at least one manufacturing line (312) and generating a truck arrival schedule to the delivery scheduling module-(370), the steps of receiving the truck arrival information and generating the truck arrival

schedule being performed by a truck scheduling module ~~(375)~~ executing on the computer system;

(f) generating in-house and external material requests, the steps of generating the in-house and external material requests being performed by the delivery scheduling module ~~(370)~~ executing on the computer system;

(g) repeating steps (a)-(f) until the at least one item has been manufactured;

obtaining a material requirement for an operation of at least one operation on the manufacturing line ~~(312)~~, the material requirement comprising an identified material and a material need-by time, the step of obtaining the material requirement being performed by a module executing on the computer system;

identifying a next truck scheduled for delivery to the operation, the next truck originating at a material source, the step of identifying the next truck being performed by a module executing on the computer system;

determining whether a following truck scheduled for delivery to the operation after the next truck has a material delivery time before the material need-by time of the material requirement, the step of determining being performed by a module executing on a computer system, and

when the following truck has a material delivery time before the material need-by time, delaying processing of the material requirement, and

when the following truck has a material delivery time after the material need-by time, determining whether a later opportunity to request the identified material exists, and

when a later opportunity exists, delaying requesting the identified material and scheduling a delivery of the identified material, and

when a later opportunity does not exist, requesting the identified material by adding the identified material to a material request for the next truck and scheduling a delivery of the identified material from the material source to the operation on the next truck.